

Amendment to the Claims:

Listing of the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 and 2 (Cancelled)

Claim 3 (Currently Amended): A rapid dissolving reinforcing filler composition for organic systems comprising an effective amount of surface-modified, pyrogenically produced oxides doped by aerosol with aluminum or salts thereof and having a hydrophobic surface, wherein the oxides are selected from the group consisting of SiO_2 , Al_2O_3 , TiO_2 , B_2O_3 , ZrO_2 , In_2O_3 , ZnO , Fe_2O_3 , Nb_2O_5 , V_2O_5 , WO_3 , SnO_2 and GeO_2 , wherein the hydrophobic surface results from coating of the pyrogenic oxides with one or several compounds selected from the following groups:

a) Organosilanes having either formula $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n-1})$, wherein

R = alkyl, and

n = 1 – 20;

b) Organosilanes having either formula $\text{R}'_x(\text{RO})_y\text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$,

wherein

R = alkyl,

R' = alkyl,

$R' = \text{cycloalkyl}$

$n = 1 - 20,$

$x+y = 3,$

$x = 1 \text{ or } 2, \text{ and}$

$y = 1 \text{ or } 2;$

c) Halogen organosilanes having either formula $X_3 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or $X_3 \text{ Si}(\text{C}_n\text{H}_{2n-1}),$

wherein

$X = \text{Cl or Br, and}$

$n = 1 - 20;$

d) Halogen organosilanes having either formula $X_2 (R') \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X_2 (R') \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$X = \text{Cl or Br}$

$R' = \text{alkyl or cycloalkyl, and}$

$n = 1 - 20;$

e) Halogen organosilanes having formula $X (R')_2 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X (R')_2 \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$X = \text{Cl or Br};$

$R' = \text{alkyl or cycloalkyl, and}$

$n = 1 - 20;$

f) Organosilanes having the formula $(\text{RO})_3\text{Si}(\text{CH}_2)_m\text{-R}'$

R = alkyl,

m = 0 or 1-20, and

R' = methyl-, aryl-, $-\text{C}_6\text{H}_5$, substituted phenyl groups,

$-\text{C}_4\text{F}_9$, $\text{OCF}_2\text{-CHF-CF}_3$, $-\text{C}_6\text{F}_{13}$, $-\text{O-CF}_2\text{-CHF}_2$,

$-\text{NH}_2$, $=\text{N}_3$, $-\text{SCN}$, $-\text{CH=CH}_2$, $-\text{NH-CH}_2\text{-CH}_2\text{-NH}_2$,

$-\text{N-(CH}_2\text{-CH}_2\text{-CH}_2\text{NH}_2)_2$,

$-\text{OOC(CH}_3\text{)C=CH}_2$,

$-\text{OCH}_2\text{-CH(O)CH}_2$,

$-\text{NH-CO-N-CO-(CH}_2\text{)}_5$,

$-\text{NH-COO-CH}_3$, $-\text{NH-COO-CH}_2\text{-CH}_3$, $-\text{NH-(CH}_2\text{)}_3\text{Si(OR)}_3$,

$-\text{SH}$ or

$-\text{NR}'\text{R}''\text{R}'''$, wherein R' = alkyl, or aryl; R'' = H, alkyl, aryl; and R''' = H, alkyl, aryl,

benzyl, or $\text{C}_2\text{H}_4\text{N(R}''''\text{)}_2$, wherein R'''' = H, or alkyl;

g) Organosilanes having the formula $(\text{R}'')_x(\text{RO})_y\text{Si}(\text{CH}_2)_m\text{-R}'$, wherein

R'' = alkyl or cycloalkyl,

$x+y = 2$,

x = 1 or 2,

y = 1 or 2,

m = 0 or 1 to 20, and

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,

-SH or

-NR'R''R''', wherein R' = alkyl or aryl; R'' = H,

alkyl, or aryl; and R''' = H, alkyl, aryl, benzyl, or

C₂H₄N(R'''')₂, wherein R'''' = H, or alkyl ;

h) Halogen organosilanes having the formula X₃Si (CH₂)_m-R', wherein

X = Cl or Br,

m = 0 or 1 – 20,

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃, or

-SH;

i) Halogen organosilanes having the formula (R)X₂Si(CH₂)_m-R', wherein

X = Cl or Br,

R = alkyl such as methyl-, ethyl-, or propyl-,

m = 0 or 1 – 20, and

R' = methyl-, aryl-, -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃,

-NH-(CH₂)₃Si(OR)₃ or

-SH;

(j) Halogen organosilanes having the formula (R)₂X Si(CH₂)_m-R', wherein

X = Cl or Br,

R = alkyl,

$m = 0$ or $1 - 20$, and

$R' =$ methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,

$-C_4F_9$, $-OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,

$-NH_2$, $-N_3$, SCN , $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,

$-N-(CH_2-CH_2-NH_2)_2$,

$-OOC(CH_3)C=CH_2$,

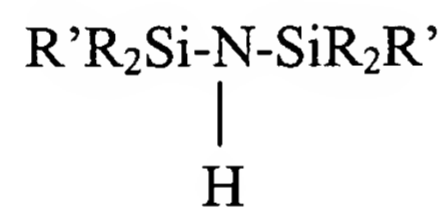
$-OCH_2-CH(O)CH_2$,

$-NH-CO-N-CO-(CH_2)_5$,

$-NH-COO-CH_3$, $-NH-COO-CH_2-CH_3$, $-NH-(CH_2)_3Si(OR)_3$ or

$-SH$;

(k) Silazanes having the formula

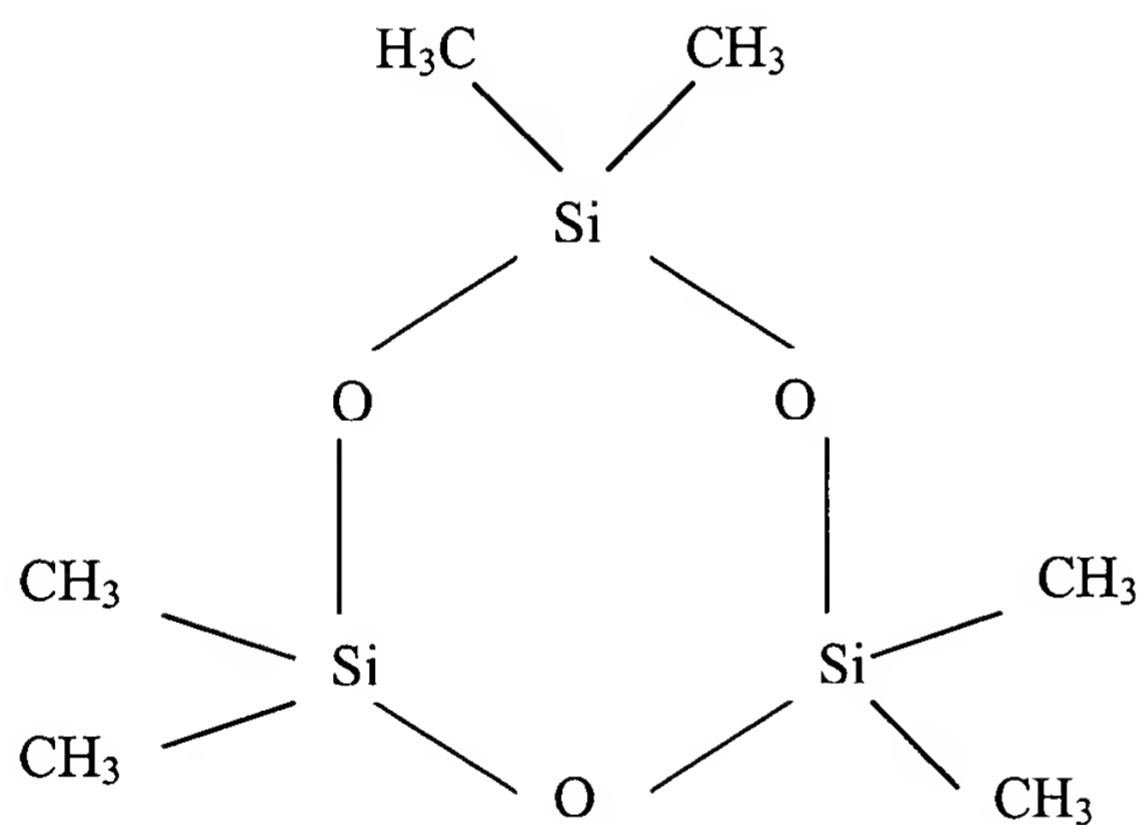


wherein $R =$ alkyl, and

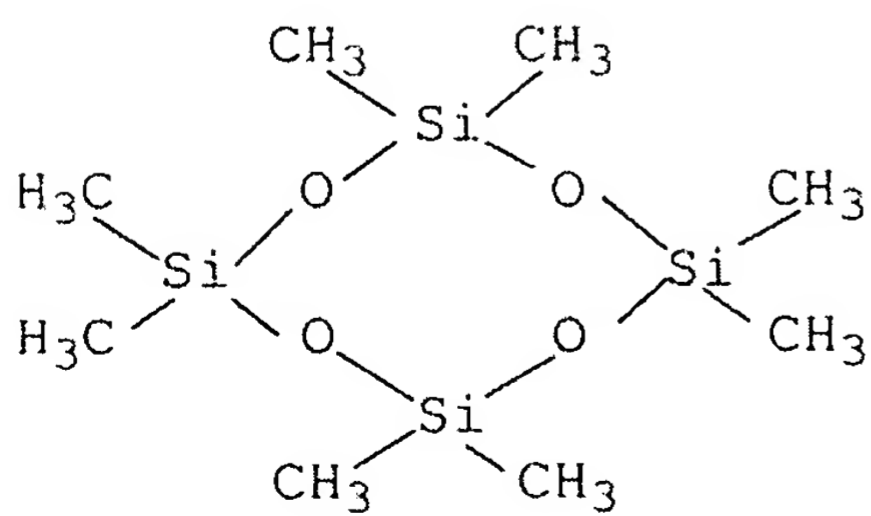
$R' =$ alkyl or vinyl; or

(l) Cyclic polysiloxanes D 3, D 4 or D 5,

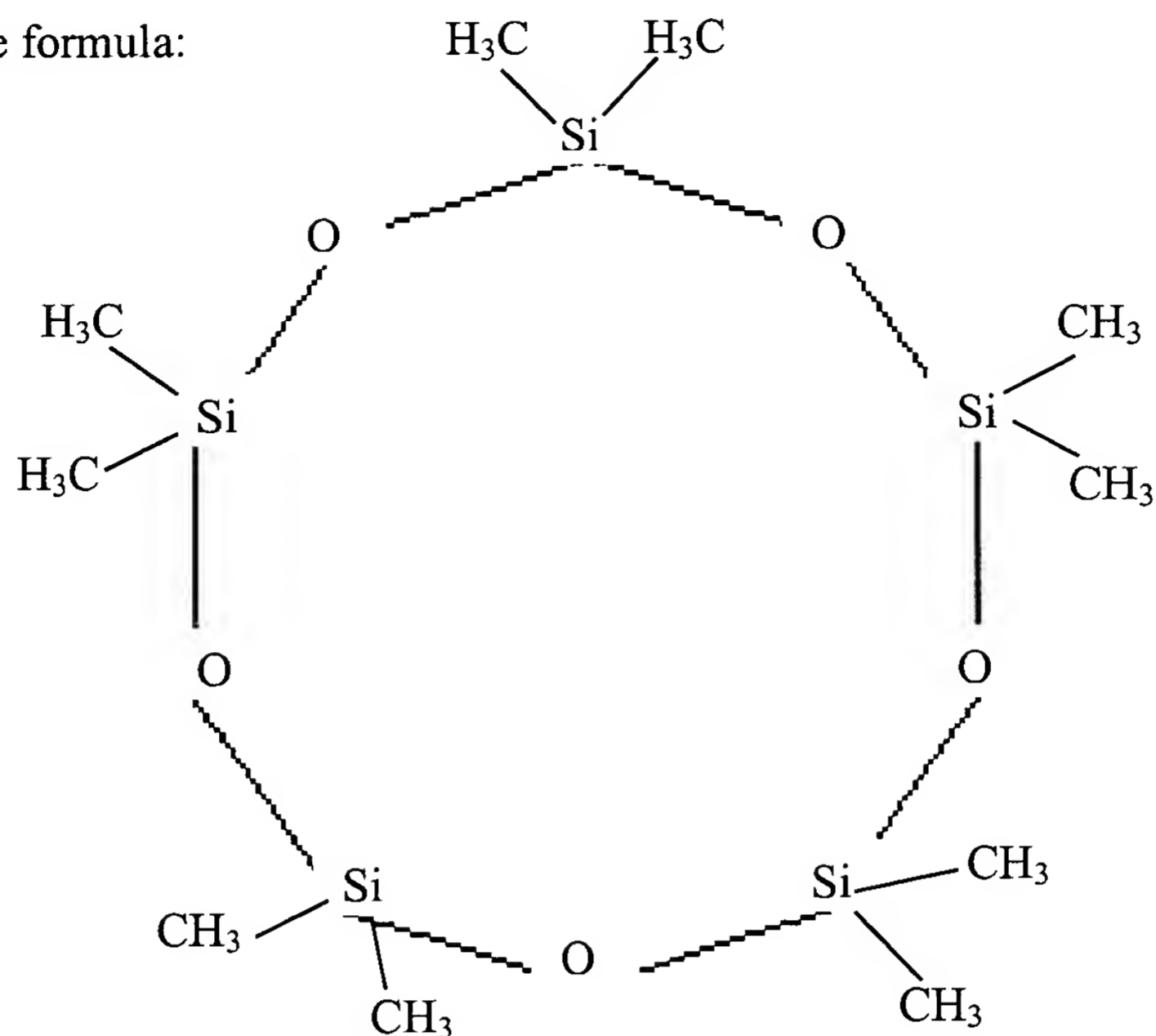
where 1) D3 has the formula:



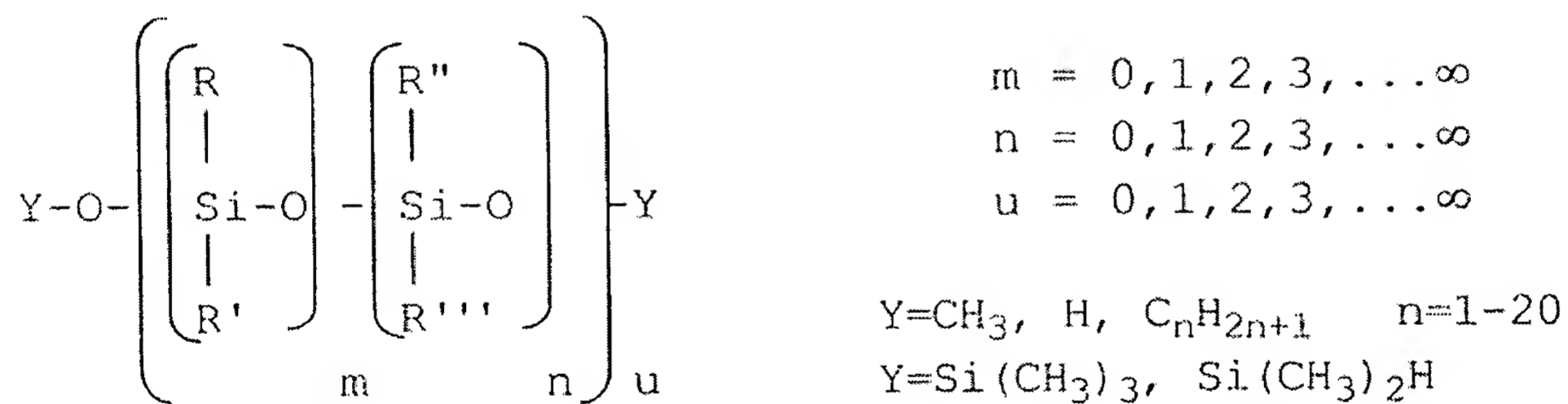
2) D4 has the formula:



and 3) D5 has the formula:



m) Polysiloxanes or silicone oils having any one of the formula



, $Si(CH_3)_2OH$, $Si(CH_3)_2(OCH_3)$ or

$Si(CH_3)_2(C_nH_{2n+1})$, wherein $n=1-20$,

wherein,

$R = \text{alkyl, aryl, } (CH_2)_n-NH_2 \text{ or } H,$

$R' = \text{alkyl, aryl, } (CH_2)_n-NH_2 \text{ or } H,$

$R'' = \text{alkyl, aryl, } (CH_2)_n\text{-NH}_2 \text{ or H,}$

$R''' = \text{alkyl, aryl, } (CH_2)_n\text{-NH}_2 \text{ or H.}$

Claim 4 (Currently amended): A method of producing the surface-modified oxides in accordance with claim 3, comprising placing pyrogenically produced oxides doped by aerosol in a suitable mixing container, spraying the oxides with water and/or acid and then spraying the oxides under intensive mixing with the surface-modification reagent or a mixture of several surface-modification reagents, wherein the surface-modified, pyrogenically produced oxides doped by aerosol and having a hydrophobic surface, wherein the oxides are selected from the group consisting of SiO_2 , Al_2O_3 , TiO_2 , B_2O_3 , ZrO_2 , In_2O_3 , ZnO , Fe_2O_3 , Nb_2O_5 , V_2O_5 , WO_3 , SnO_2 and GeO_2 , wherein the hydrophobic surface results from coating of the pyrogenic oxides with one or several compounds selected from the following groups:

a) Organosilanes having either formula $(RO)_3Si(C_nH_{2n+1})$ or $(RO)_3Si(C_nH_{2n-1})$, wherein

$R = \text{alkyl, and}$

$n = 1 - 20;$

b) Organosilanes having either formula $R'_x(RO)_ySi(C_nH_{2n+1})$ or $(RO)_3Si(C_nH_{2n+1})$,

wherein

$R = \text{alkyl,}$

$R' = \text{alkyl,}$

$R' = \text{cycloalkyl}$

$$\underline{n = 1 - 20,}$$

$$\underline{x+y = 3,}$$

$$\underline{x = 1 \text{ or } 2, \text{ and}}$$

$$\underline{y = 1 \text{ or } 2;}$$

c) Halogen organosilanes having either formula $X_3 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or $X_3 \text{ Si}(\text{C}_n\text{H}_{2n-1})$,

wherein

$$\underline{X = \text{Cl or Br, and}}$$

$$\underline{n = 1 - 20;}$$

d) Halogen organosilanes having either formula $X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$$\underline{X = \text{Cl or Br}}$$

$\text{R}' = \text{alkyl or cycloalkyl, and}$

$$\underline{n = 1 - 20;}$$

e) Halogen organosilanes having formula $X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$$\underline{X = \text{Cl or Br;}}$$

$\text{R}' = \text{alkyl or cycloalkyl, and}$

$$\underline{n = 1 - 20;}$$

f) Organosilanes having the formula $(\text{RO})_3\text{Si}(\text{CH}_2)_m\text{-R}'$

R = alkyl,

m = 0 or 1-20, and

R' = methyl-, aryl-, $-\text{C}_6\text{H}_5$, substituted phenyl groups,

$-\text{C}_4\text{F}_9$, $\text{OCF}_2\text{-CHF-CF}_3$, $-\text{C}_6\text{F}_{13}$, $-\text{O-CF}_2\text{-CHF}_2$,

$-\text{NH}_2$, $=\text{N}_3$, $-\text{SCN}$, $-\text{CH=CH}_2$, $-\text{NH-CH}_2\text{-CH}_2\text{-NH}_2$,

$-\text{N}(\text{CH}_2\text{-CH}_2\text{-CH}_2\text{NH}_2)_2$,

$-\text{OOC}(\text{CH}_3)\text{C}=\text{CH}_2$,

$-\text{OCH}_2\text{-CH}(\text{O})\text{CH}_2$,

$-\text{NH-CO-N-CO-}(\text{CH}_2)_5$,

$-\text{NH-COO-CH}_3$, $-\text{NH-COO-CH}_2\text{-CH}_3$, $-\text{NH-}(\text{CH}_2)_3\text{Si}(\text{OR})_3$,

$-\text{SH}$ or

$-\text{NR}'\text{R}''\text{R}'''$, wherein R' = alkyl, or aryl; R'' = H, alkyl, aryl; and R''' = H, alkyl, aryl,

benzyl, or $\text{C}_2\text{H}_4\text{N}(\text{R}'''')_2$, wherein R'''' = H, or alkyl;

g) Organosilanes having the formula $(\text{R}'')_x(\text{RO})_y\text{Si}(\text{CH}_2)_m\text{-R}'$, wherein

R'' = alkyl or cycloalkyl,

x+y = 2,

x = 1 or 2,

y = 1 or 2,

m = 0 or 1 to 20, and

R' = methyl-, aryl-, $-\text{C}_6\text{H}_5$, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,
-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,
-N-(CH₂-CH₂-NH₂)₂,
-OOC (CH₃)C = CH₂,
-OCH₂-CH(O) CH₂,
-NH-CO-N-CO-(CH₂)₅,
-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,
-SH or
-NR'R''R''', wherein R' = alkyl or aryl; R'' = H,
alkyl, or aryl; and R''' = H, alkyl, aryl, benzyl, or
C₂H₄N(R''')₂, wherein R''' = H, or alkyl ;

h) Halogen organosilanes having the formula X₃Si (CH₂)_m-R', wherein

X = Cl or Br,

m = 0 or 1 – 20,

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,
-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,
-N-(CH₂-CH₂-NH₂)₂,
-OOC (CH₃)C = CH₂,
-OCH₂-CH(O) CH₂,
-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃, or

-SH;

i) Halogen organosilanes having the formula (R)X₂Si(CH₂)_m-R', wherein

X = Cl or Br,

R = alkyl such as methyl-, ethyl-, or propyl-,

m = 0 or 1 – 20, and

R' = methyl-, aryl-, -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃,

-NH-(CH₂)₃Si(OR)₃ or

-SH;

(j) Halogen organosilanes having the formula (R)₂X Si(CH₂)_m-R', wherein

X = Cl or Br,

R = alkyl,

m = 0 or 1 – 20, and

R' = methyl-, aryl-, -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

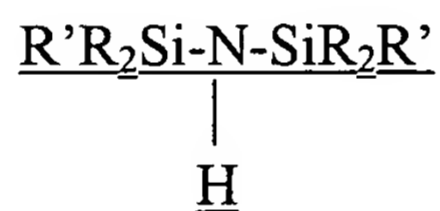
-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃ or

-SH;

(k) Silazanes having the formula

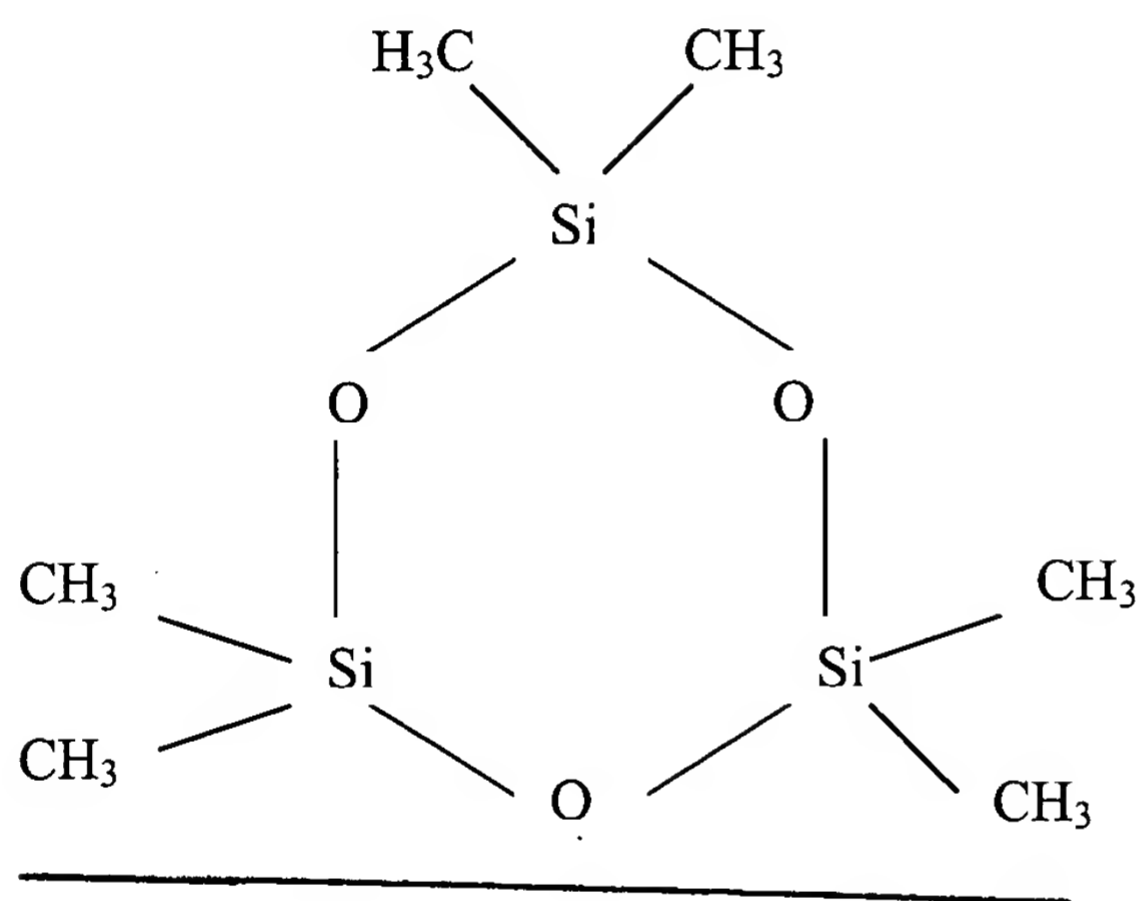


wherein R = alkyl, and

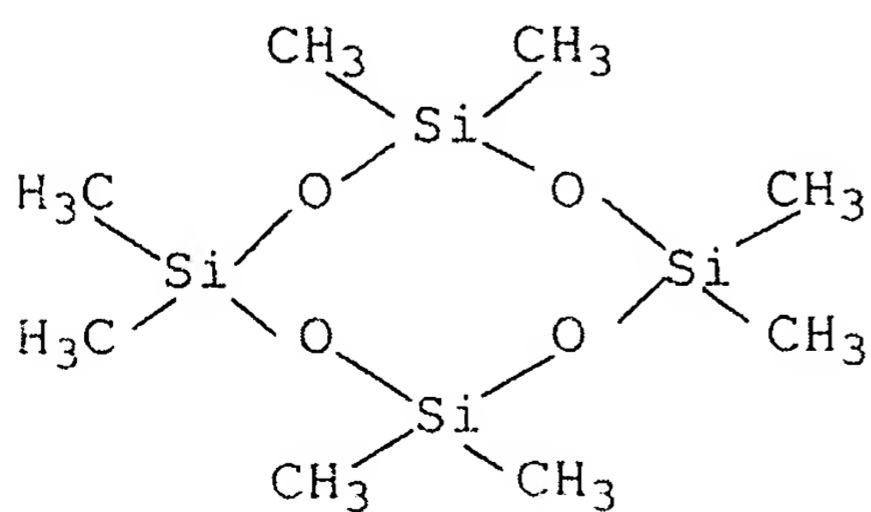
R' = alkyl or vinyl; or

(l) Cyclic polysiloxanes D 3, D 4 or D 5,

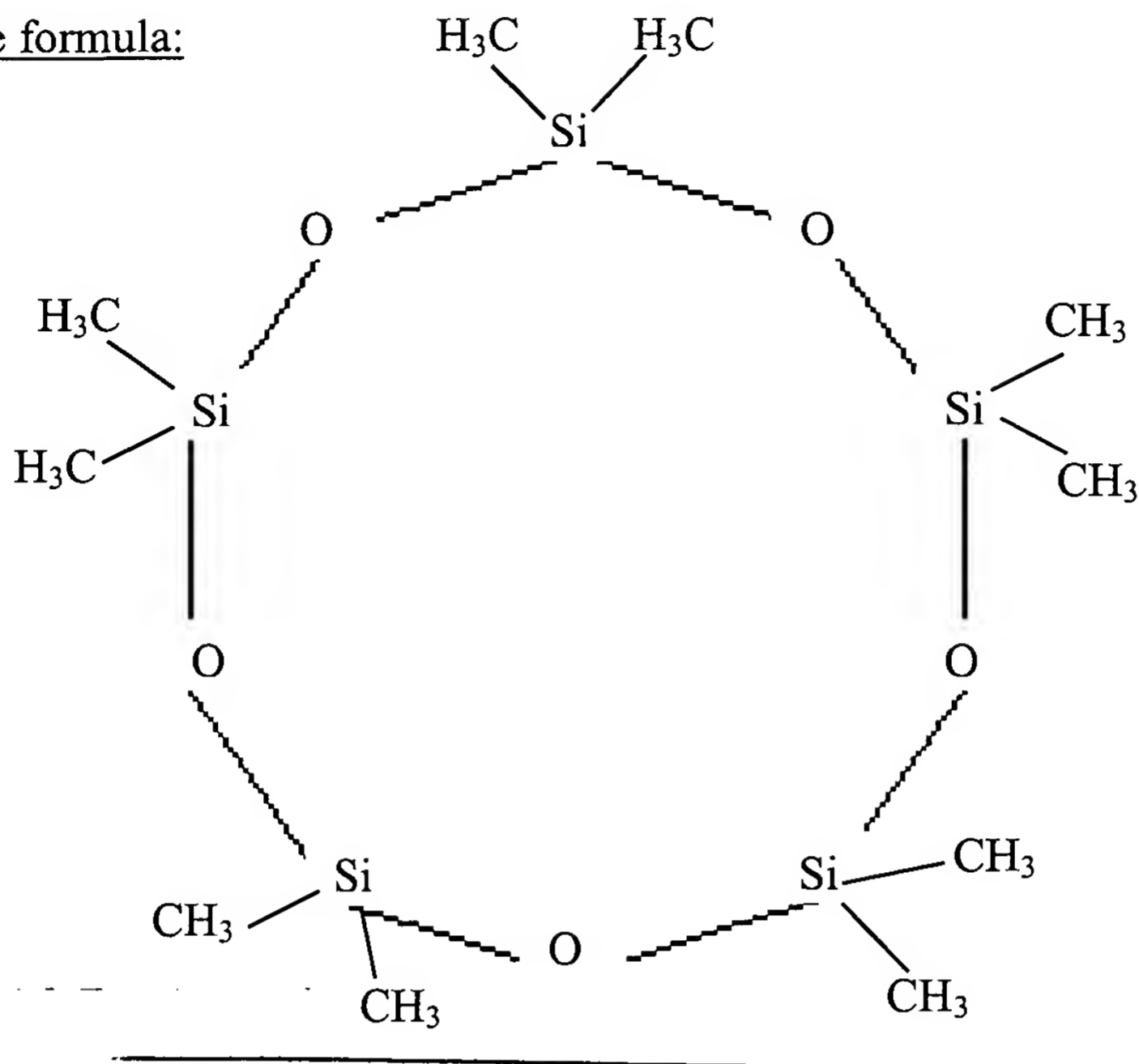
where 1) D3 has the formula:



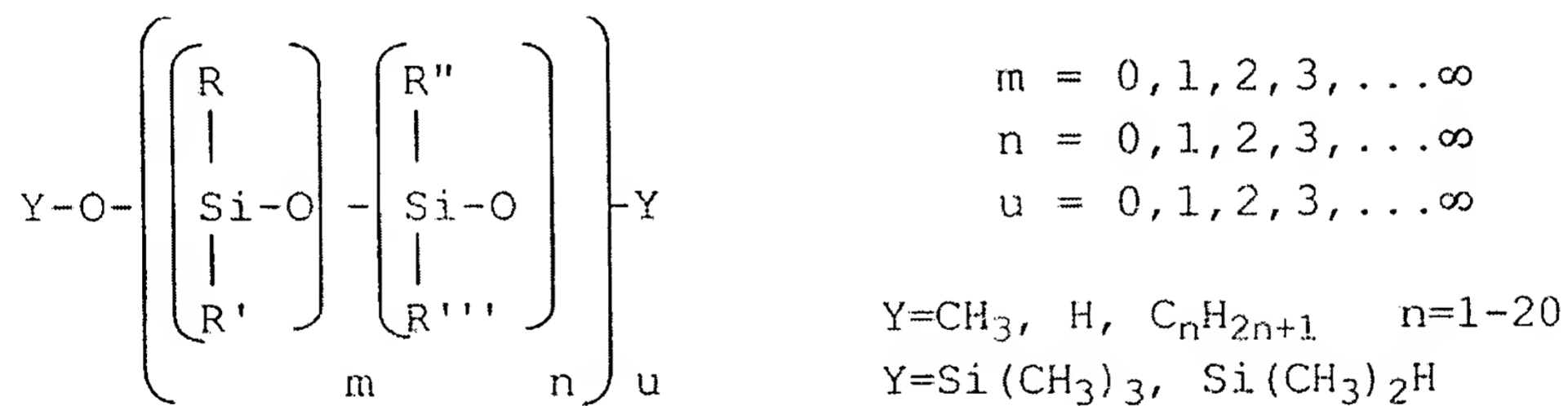
2) D4 has the formula:



and 3) D5 has the formula:



m) Polysiloxanes or silicone oils having any one of the formula



, $Si(CH_3)_2OH$, $Si(CH_3)_2(OCH_3)$ or

$Si(CH_3)_2(C_nH_{2n+1})$, wherein $n=1-20$,

wherein,

$R = \text{alkyl, aryl, } (CH_2)_n-NH_2 \text{ or } H,$

$R' = \text{alkyl, aryl, } (CH_2)_n-NH_2 \text{ or } H,$

R'' = alkyl, aryl, (CH₂)_n-NH₂ or H.

R''' = alkyl, aryl, (CH₂)_n-NH₂ or H.

Claim 5 (Previously presented): In a reinforcing filler composition wherein the improvement comprises the surface-modified oxides according to claim 3 as reinforcing filler.

Claim 6 (Cancelled)

Claim 7 (Original) The method of claim 4 further comprising re-mixing at 15 to 30 minutes and tempering at a temperature of 100 to 400 °C for a period of 1 to 6 hours.

Claim 8 (Previously presented) The surface-modified, pyrogenically produced oxides according to claim 3 wherein the cyclic polysiloxanes is D 4.

Claims 9 -12 (Cancelled)